

CHEMOSPHERE

Lists of Contents and Author Index
Volume 31, 1995



PERGAMON

EDITOR-IN-CHIEF (and Editor of Chemistry and Biochemistry)

Professor O. Hutzinger

University of Bayreuth, Chair of Ecological Chemistry and Geochemistry, Postfach 10 12 51, D-95440 Bayreuth, Germany
Fax: XX 49 921 54626

ASSISTANT EDITOR: Alfreda Hutzinger

EXECUTIVE EDITOR

Dr T. Stephen

PRODUCTION EDITOR: Sheila Taylor

Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, U.K.

EDITORS

CHEMISTRY AND BIOCHEMISTRY

Mr D. W. Kuehl
U.S. Environmental Protection Agency, Duluth, MN 55804,
U.S.A.
Fax: XX 218 720 5539

ECOTOXICOLOGY

Professor Dr J. P. Giesy
Department of Fisheries and Wildlife, Michigan State
University, MI 48824-1222, U.S.A.
Fax: XX 517 432 1699

Professor W. Klein

Fraunhofer-Institut für Umweltchemie und Ökotoxikologie,
Grafschaft-Hochsauerland D-57392 Schmallenberg, Germany
Fax: XX 49 2972 30 2319

Dr M. Yasuno

National Institute for Environmental Studies, Japan
Environment Agency, 16-2 Onogawa, Tsukuba, Ibaraki 305,
Japan
Fax: XX 298 51 4732

TOXICOLOGY, PHARMACOKINETICS AND EPIDEMIOLOGY

Professor U. G. Ahlborg
Karolinska Institutet, Institute of Environmental Medicine, Unit
of Toxicology, Box 210, S-171 77 Stockholm, Sweden
Fax: XX 46 8 34 3849

Professor S. Safe

Veterinary Physiology and Pharmacology, Texas A and M
University, College Station, TX 77843, U.S.A.
Fax: XX 409 845 6544

Professor E. Takabatake

Otokoyama-Nagasaki, 16-8-304 Yawata-shi, Kyoto 614, Japan
Fax: 075-971-9047.

ATMOSPHERIC CHEMISTRY AND GLOBAL CHANGE

Dr M. A. K. Khalil

Global Change Research Center and Department of
Environmental Science and Engineering, Oregon Graduate
Institute, PO Box 91000, Portland, OR 97291-1000, U.S.A.
Fax: XX 503 690 1016

EDITORIAL BOARD

CHEMISTRY AND BIOCHEMISTRY

J. Albaiges, CID-CSIC, Barcelona, Spain
K. Balschmitt, Universität Ulm, Ulm, Germany
T. F. Bidleman, ARQP, Ontario, Canada
R. E. Clement, Ministry of the Environment, Etobicoke,
Ontario, Canada
D. W. Connell, Griffith University, Brisbane, Australia
H. Fiedler, University of Bayreuth, Bayreuth, Germany
W. Giger, Swiss Federal Institute of Technology, Dubendorf,
Switzerland
H. P. Hagenmaier, University of Tübingen, Tübingen, Germany
F. Hileman, Monsanto BBAM, St Louis, MO, U.S.A.
R. A. Hites, Indiana University, Bloomington, IN, U.S.A.
P. M. Huang, University of Saskatchewan, Saskatoon, Canada
R. C. Lao, Environment Canada, Ottawa, Canada
D. Lenoir, GSF Institut für Ökologische Chemie, Neuherberg,
Germany
D. Mackay, University of Toronto, Toronto, Canada
A. A. Moghissi, PO Box 7166, Alexandria, VA, U.S.A.
H. Parlar, Gesamthochschule Kassel-Universität, Kassel,
Germany
C. Rappe, University of Umeå, Umeå, Sweden
A. Sabljic, Institute Rudjer Bošković, Zagreb, Croatia
H. R. Schulten, Fachhochschule Fresenius, Wiesbaden,
Germany
P. R. Wallnöfer, Bayerische Landesanstalt für Ernährung,
Munich, Germany
V. Zitko, Biological Station, St Andrews, Canada

ECOTOXICOLOGY

S. M. Bartell, Sees Oak Ridge Inc., Oak Ridge, TN, U.S.A.
G. C. Butler, 4694 West 13th Avenue, Vancouver, Canada
D. Calamari, Università degli Studi di Milano, Milan, Italy
R. T. Digiulio, Duke University, Durham, NC, U.S.A.
W. Ernst, Alfred-Wegener-Institut für Polar- und Meeresfor-
schung, Bremerhaven, Germany
A. Fiedner, Fraunhofer-Institut für Umweltchemie und
Ökotoxikologie, Schmallenberg, Germany
M. Goto, Gakushuin University, Tokyo, Japan
P. C. Kearney, National Resources Institute, Beltsville, MD,
U.S.A.

S. J. Klaine, TIWET, Clemson University, PO Box 709,
Pendleton, SC, U.S.A.

P. F. Landrum, Great Lakes Environmental Research
Laboratory, Ann Arbor, MI, U.S.A.

R. Nagel, Johannes Gutenberg-Universität Mainz, Mainz,
Germany

F. Schmidt-Bleek, Wuppertal Institute for Climate, Energy and
Environment, Wuppertal, Germany

A. Spacie, Purdue University, West Lafayette, IN, U.S.A.

TOXICOLOGY, PHARMACOKINETICS AND EPIDEMIOLOGY

R. Kociba, Dow Chemical Company, Midland, MI, U.S.A.

Y. Masuda, Daichi College of Pharmaceutical Sciences,
Fukuoka, Japan

W. Mücke, Technical University of Munich, Munich, Germany

H. Nakazawa, Institute of Public Health, Tokyo, Japan

Ch. Schiatter, University of Zurich, Schwerzenbach,
Switzerland

R. R. Suskind, University of Cincinnati, Cincinnati, OH, U.S.A.

ATMOSPHERIC CHEMISTRY AND GLOBAL CHANGE

V. P. Aneja, North Carolina State University, Raleigh, NC,
U.S.A.

P. Brimblecombe, University of East Anglia, Norwich, U.K.

C. I. Davidson, Carnegie Mellon University, Pittsburgh, PA,
U.S.A.

R. Harris, University of New Hampshire, Durham, NH, U.S.A.

D. Kammen, The Woodrow Wilson School of Public &
International Affairs, Princeton University, Princeton, NJ,
U.S.A.

V. W. J. H. Kirchhoff, Instituto Nacional de Pesquisas Espaciais
(INPE), São José dos Campos, S.P., Brazil

H. Papen, Fraunhofer Institute for Atmospheric Environmental
Research, Garmisch-Partenkirchen, Germany

D. C. Parashar, National Physical Laboratory, New Delhi, India

S. A. Penkett, University of East Anglia, Norwich, U.K.

R. A. Rasmussen, Oregon Graduate Institute, PO Box 9100
Portland, OR, U.S.A.

W. Seiler, Fraunhofer Institute for Atmospheric Environmental
Research, Garmisch-Partenkirchen, Germany

J. W. Winchester, Florida State University, Tallahassee, FL,
U.S.A.

LIST OF CONTENTS

Number 1

	v	Contributors to this issue
B. L. Johnson	2415	Nature, extent, and impact of superfund hazardous waste sites
K. Namboodiri	2429	Computational initiatives in hazardous chemical mitigation
H. Pohl, C. DeRosa and J. Holler	2437	Public health assessment for dioxins exposure from soil
H. I. Hall, P. A. Price-Green, V. R. Dhara and W. E. Kaye	2455	Health effects related to releases of hazardous substances on the superfund priority list
E. I. Etkina and I. A. Etkina	2463	Chemical mixtures exposure and children's health
T. D. Jones	2475	Use of bioassays in assessing health hazards from complex mixtures: a rash analysis
M. M. Mumtaz, W. Cibulas and C. T. DeRosa	2485	An integrated framework to identify significant human exposures (SHELs)
V. K. Gombar, K. Enslein and B. W. Blake	2499	Assessment of developmental toxicity potential of chemicals by quantitative structure-toxicity relationship models
G. Klopman, Z. Zhang, S. D. Woodgate and H. S. Rosenkranz	2511	The structure-toxicity relationship challenge at hazardous waste sites
J. C. Dearden, M. T. D. Cronin and A. J. Dobbs	2521	Quantitative structure-activity relationships as a tool to assess the comparative toxicity of organic chemicals
S. C. Basak and G. D. Grunwald	2529	Predicting mutagenicity of chemicals using topological and quantum chemical parameters: a similarity based study
H. Pohl and J. Holler	2547	Halogenated aromatic hydrocarbons and toxicity equivalency factors (TEFs) from the public health assessment perspective
H. J. Clewell, P. R. Gentry, J. M. Gearhart, B. C. Allen and M. E. Andersen	2561	Considering pharmacokinetic and mechanistic information in cancer risk assessments for environmental contaminants: examples with vinyl chloride and trichloroethylene

Number 2

	iii	Contributors to this issue
M. Horstmann and M. S. McLachlan	2579	Results of an initial survey of polychlorinated dibenzo- <i>p</i> -dioxins (PCDD) and dibenzofurans (PCDF) in textiles
U. Thuß, P. Popp, Chr. Ehrlich and W.-D. Kalkhoff	2591	Domestic lignite combustion as source of polychlorodibenzo-dioxins and -furans (PCDD/F)

J. Moreno and C. Vargas-García	2605	Growth and nitrogenase activity of <i>Azotobacter vinelandii</i> in chemically-defined media containing glucose and <i>p</i> -hydroxybenzoic acid
H. Ludl, K. Schöpe and I. Mangelsdorf	2611	Searching for information on chemical substances in selected biomedical bibliographic databases
S. Sinkkonen, R. Mäkelä, R. Vesterinen and M. Lahtiperä	2629	Chlorinated dioxins and dibenzothiophenes in fly ash samples from combustion of peat, wood chips, refuse derived fuel and liquid packaging boards
H. Greim, J. Ahlers, R. Bias, B. Broecker, H. Hollander, H.-P. Gelbke, S. Jacobi, H.-J. Klimisch, I. Mangelsdorf, W. Mayr, N. Schön, G. Stropp, P. Stahnecker, R. Vogel, C. Weber, K. Ziegler-Skylakakis and E. Bayer	2637	Assessment of structurally related chemicals: toxicity and ecotoxicity of acrylic acid and acrylic acid alkyl esters (acrylates), methacrylic acid and methacrylic acid alkyl esters (methacrylates)
M. P. Serve, D. D. Bombick, T. M. Baughman, B. M. Jarnot, M. Ketcha and D. R. Mattie	2661	The metabolism of <i>n</i> -nonane in male Fischer 344 rats
R. Nakagawa	2669	Studies on the levels in atmospheric concentrations of mercury in Japan
F. Seigle-Murandi, A. Toé, J.-L. Benoit-Guyod, R. Steiman and M. Kadri	2677	Depletion of pentachlorophenol by Deuteromycetes isolated from soil
M. Bolgar, J. Cunningham, R. Cooper, R. Kozloski, J. Hubball, D. P. Miller, T. Crone, H. Kimball, A. Janooby, B. Miller and B. Fairless	2687	Physical, spectral and chromatographic properties of all 209 individual PCB congeners
W. Heger, S.-J. Jung, S. Martin and H. Peter	2707	Acute and prolonged toxicity to aquatic organisms of new and existing chemicals and pesticides
A. I. De la Torre, C. Fernández, J. V. Tarazona and M. J. Muñoz	2727	Detection of aroclor, DDT, malathion and HCB using semi-permeable membranes as concentration method
Yi-bing He, Lian-sheng Wang, Zheng-tao Liu and Zheng Zhang	2739	Acute toxicity of alkyl (1-phenylsulfonyl)cycloalkane-carboxylates to <i>Daphnia magna</i> and quantitative structure-activity relationships
S. H. Hüttenhain, C. Wilhelm, C. Holley, J. Windrich, J. Arnold and M. Kampe	2747	Separation of pyrene and hexachlorobenzene by middle pressure liquid extraction (MPLE) of soil
H. Wichmann, W. Lorenz and M. Bahadir	2755	Release of PCDD/F and PAH during vehicle fires in traffic tunnels
W. R. Mitchell and E. P. Burrows	2767	Nitroreduction of 2,4-dinitrotoluene <i>in vitro</i> by cytochrome P-450 induced H4IE cells
J.-R. Lu, H. Miyata, C.-W. Huang, H.-T. Tsai, V.-Z. Sheng, Y. Mase, O. Aozasa and S. Ohta	2779	Pollution by PCDDs and PCDFs in sediment from freshwater fish culture ponds near incineration sites for metal reclamation in Wan-Li, Taiwan, Republic of China

M. Yamamoto	2791	Possible mechanism of elemental mercury oxidation in the presence of SH compounds in aqueous solution
Number 3		
iii Contributors to this issue		
A. G. van Haelst, J. Bakboord, J. R. Parsons and H. A. J. Govers	2799	Biodegradability of tetrachlorobenzyltoluenes and polychlorinated biphenyls in activated sludge and in cultures of <i>Alcaligenes</i> sp. JB1: a preliminary study
N. Watanabe, S. Sakai and H. Takatsuki	2809	Release and degradation half lives of tributyltin in sediment
F. J. González-Vila, J. M. Bautista, J. C. Del Rio and F. Martin	2817	Evolution of chemicals within the dump profile in a controlled landfill
J. P. Salanitro, L. A. Diaz and L. Kravetz	2827	Aerobic biodegradability of surfactants at low concentrations using an automated pressure transducer system
H. Palm, J. Paasivirta and R. Lammi	2839	Behaviour of chlorinated phenolic compounds in bleach-plant, treatment-system and archipelago area
T. W. Assmuth and T. Vartiainen	2853	Analysis of toxicological risks from local contamination by PCDDs and PCDFs: importance of isomer distributions and toxic equivalents
Yong-Chien Ling, Der-Kau Soong and Mei-Kuei Lee	2863	PCDD/DFs and coplanar PCBs in sediment and fish samples from the Er-Jen river in Taiwan
F. J. Beltrán, M. González, F. J. Rivas and J. Jaramillo	2873	Application of photochemical reactor models to UV irradiation of trichloroethylene in water
M. Horstmann and M. S. McLachlan	2887	Concentrations of polychlorinated dibenzo- <i>p</i> -dioxins (PCDD) and dibenzofurans (PCDF) in urban runoff and household wastewaters
D. C. Elfving, K. R. Wilson, J. G. Ebel Jr, K. L. Manzell, W. H. Gutenmann and D. J. Lisk	2897	Downward migration of mercury in an old orchard sandy soil
G. J. Doss, D. C. Elfving and D. J. Lisk	2901	Zinc in foliage downwind from a tire-burning power plant
J. R. Bowyer and J. D. Pleil	2905	Supercritical fluid extraction as a means of cleaning and desorbing common air sampling sorbents
L. W. Hall Jr, M. C. Ziegenfuss, R. D. Anderson, D. P. Tierney, T. D. Spittler and L. Lavin	2919	The influence of salinity and sediment on the loss of atrazine from the water column
G. P. Cobb and R. S. Braman	2945	Relationships between nitrous acid and other nitrogen oxides in urban air
J.-R. Lu, H. Miyata, C.-W. Huang, H.-T. Tsai, V.-Z. Sheng, T. Nakao, Y. Mase, O. Aozasa and S. Ohta	2959	Contamination levels of PCDDs, PCDFs and non-ortho chlorine substituted coplanar PCBs in milkfish and crab from culture pond and coastal area near open-air incineration sites for metal reclamation in Wan-Li, Taiwan, Republic of China

Number 4

iii Contributors to this issue

T. J. Gish, A. Sadeghi and B. J. Wienhold 2971 Volatilization of alachlor and atrazine as influenced by surface litter

W. J. Wagenaar, E. J. Boelhouwers, H. A. M. de Kok, C. P. Groen, H. A. J. Govers, K. Olie, J. de Gerlache and C. G. de Rooij 2983 A comparative study of the photolytic degradation of octachlorodibenzofuran (OCDF) and octachlorodibenzo-*p*-dioxin (OCDD)

W. Schwack, B. Bourgeois and F. Walker 2993 Fungicides and photochemistry photodegradation of the dicarboximide fungicide iprodione

A. E. Walters, P. B. Myrdal and S. H. Yalkowsky 3001 A method for estimating the boiling points of organic compounds from their melting points

J. S. Fletcher and R. S. Hegde 3009 Release of phenols by perennial plant roots and their potential importance in bioremediation

S. Safe, K. Washburn, T. Zacharewski and T. Phillips 3017 Synthesis and characterization of hydroxylated polychlorinated biphenyls (PCBs) identified in human serum

S. L. Collie, K. C. Donnelly, B.-H. Bae, R. L. Autenrieth and J. S. Bonner 3025 Degradation of 2,4,6-trinitrotoluene (TNT) in an aerobic reactor

N. V. Heeb, I. S. Dolezal, T. Bührer, P. Mattrel and M. Wolfensberger 3033 Distribution of halogenated phenols including mixed brominated and chlorinated phenols in municipal waste incineration flue gas

F. A. Nicholson, K. C. Jones and A. E. Johnston 3043 The significance of the retention of atmospherically deposited cadmium on plant surfaces to the cadmium content of herbage

K. Terytze, W. Kördel, R. Aldag, J. Hanel, D. Hein, E. Keller, M. Klein, G. Kuhnt, U. Müller-Wegener, I. Scheunert, M. Schmidt, M. Spiteller and K. Th. von der Trenck 3051 Detection and determination limits of priority organic pollutants in soil

U. Sellström and B. Jansson 3085 Analysis of tetrabromobisphenol A in a product and environmental samples

A. P. Davis, Y. H. Hsieh and C. P. Huang 3093 Photo-oxidative dissolution of CdS(s): the effect of complexing agents

J. Steber, C.-P. Herold and J. M. Limia 3105 Comparative evaluation of anaerobic biodegradability of hydrocarbons and fatty derivatives currently used as drilling fluids

J. Schnelle, T. Jänsch, K. Wolf, I. Gebefügi and A. Kettrup 3119 Particle size dependent concentrations of polycyclic aromatic hydrocarbons (PAH) in the outdoor air

M. K. Nelson and E. L. Brunson 3129 Postembryonic growth and development of *Hyalella azteca* in laboratory cultures and contaminated sediments

S. G. Mulsow and P. F. Landrum	3141	Bioaccumulation of DDT in a marine polychaete, the conveyor-belt deposit feeder <i>Heteromastus filiformis</i> (Claparedes)
Y. A. Husin, D. Murdiyarsa, M. A. K. Khalil, R. A. Rasmussen, M. J. Shearer, S. Sabiham, A. Sunar and H. Adjuwana	3153	Methane flux from Indonesian wetland rice: the effects of water management and rice variety

Number 5

iii Contributors to this issue

P. J. van den Brink, E. van Donk, R. Gylstra, S. J. H. Crum and T. C. M. Brock	3181	Effects of chronic low concentrations of the pesticides chlorpyrifos and atrazine in indoor freshwater microcosms
A. P. van Wezel, D. T. H. M. Sijm, W. Seinen and A. Opperhuizen	3201	Use of lethal body burdens to indicate species differences in susceptibility to narcotic toxicants
J. A. Camargo and J. V. Ward	3211	Nitrate ($\text{NO}_3\text{-N}$) toxicity to aquatic life: a proposal of safe concentrations for two species of nearctic freshwater invertebrates
G. I. Paton, G. Palmer, A. Kindness, C. Campbell, L. A. Glover and K. Killham	3217	Use of luminescence-marked bacteria to assess copper bioavailability in malt whisky distillery effluent
K. Wilkins and K. Larsen	3225	Variation of volatile organic compound patterns of mold species from damp buildings
J. B. H. J. Linders and R. Luttik	3237	Uniform system for the evaluation of substances. V.ESPE, risk assessment for pesticides
P. K. Kanungo, T. K. Adhya and V. R. Rao	3249	Influence of repeated applications of carbofuran on nitrogenase activity and nitrogen-fixing bacteria associated with rhizosphere of tropical rice
J. Chiarenzelli, R. Scrudato, M. Wunderlich, D. Rafferty, K. Jensen, G. Oenga, R. Roberts and J. Pagano	3259	Photodecomposition of PCBs absorbed on sediment and industrial waste: implications for photocatalytic treatment of contaminated solids
B. J. Dutka, K. Teichgräber and R. Lifshitz	3273	A modified SOS-chromotest procedure to test for genotoxicity and cytotoxicity in sediments directly without extraction
C. Naylor and C. Rodrigues	3291	Development of a test method for <i>Chironomus riparius</i> using a formulated sediment
S. J. Larson, P. D. Capel, D. A. Goolsby, S. D. Zaugg and M. W. Sandstrom	3305	Relations between pesticide use and riverine flux in the Mississippi River basin
Y. Lin, G. Gupta and J. Baker	3323	Photodegradation of polychlorinated biphenyl congeners using simulated sunlight and diethylamine

C. J. Owen, R. P. Axler, D. R. Nordman, M. Schubauer- Berigan, K. B. Lodge and J. P. Schubauer-Berigan	3345	Screening for PAHs by fluorescence spectroscopy: a comparison of calibrations
H. A. Khwaja, S. Brudnoy and L. Husain	3357	Chemical characterization of three summer cloud episodes at Whiteface Mountain

Number 6

	iii	Contributors to this issue
V. Zitko	3383	Letter to the Editor
M. Oehme and R. Kallenborn	3384	Reply to Letter to the Editor
F. Laturnus	3387	Release of volatile halogenated organic compounds by unicellular cultures of polar macroalgae
D. Pastor, X. Ruiz, D. Barceló, and J. Albaiges	3397	Dioxins, furans and AHH-active PCB congeners in eggs of two gull species from the Western Mediterranean
T. Rantio	3413	Chlorinated cymenes in effluents of two Finnish pulp mills in 1990-1993
S. Han, H. Zhang, A. Zhang and L. Wang	3425	Hydrolysis kinetics of phenylsulfonyl-cycloalkane carboxylates
L. Gimeno, E. Hernández and M. Sánchez	3433	A method to evaluate the contribution of a source region to rainwater acidity in a receptor station
L. Gimeno, E. Hernández and M. Sánchez	3439	Rainfall acidity as related to the air mass trajectory: a study of the influence of time prior to precipitation
K.-W. Schramm, W. Z. Wu, B. Henkelmann, M. Merk, Y. Xu, Y. Y. Zhang and A. Kettrup	3445	Influence of linear alkylbenzene sulfonate (LAS) as organic cosolvent on leaching behaviour of PCDD/Fs from fly ash and soil
C. S. Chen and J. Zoltek Jr	3455	Organic priority pollutants in wetland-treated leachates at a landfill in central Florida
J. M. Brannon, J. C. Pennington, V. A. McFarland and C. Hayes	3465	The effects of sediment contact time on K_{OC} of nonpolar organic contaminants
C. G. Schreier and M. Reinhard	3475	Catalytic hydrodehalogenation of chlorinated ethylenes using palladium and hydrogen for the treatment of contaminated water
K. Hummert, W. Vetter and B. Luckas	3489	Levels of alpha-HCH, lindane, and enantiomeric ratios of alpha-HCH in marine mammals from the northern hemisphere

X. Zhang and F. A. P. C. Gobas	3501	A thermodynamic analysis of the relationships between molecular size, hydrophobicity, aqueous solubility and octanol-water partitioning of organic chemicals
J. M. López-Martín, J. Ruiz-Olmo and A. Borrell	3523	Levels of organochlorine compounds in freshwater fish from Catalonia, N.E. Spain
P. Zhuang and S. G. Pavlostathis	3537	Effect of temperature, pH and electron donor on the microbial reductive dechlorination of chloroalkenes
R. Addink, H. A. J. Govers and K. Olie	3549	Kinetics of formation of polychlorinated dibenzo- <i>p</i> -di-oxins/dibenzofurans from carbon on fly ash
S. S. Rao, B. A. Quinn, B. K. Burnison, M. A. Hayes and C. D. Metcalfe	3553	Assessment of the genotoxic potential of pulp mill effluent using bacterial, fish and mammalian assays
J. T. Barber, H. A. Sharma, H. E. Ensley, M. A. Polito and D. A. Thomas	3567	Detoxification of phenol by the aquatic angiosperm, <i>Lemna gibba</i>
Y. Sun, G. M. Brown and B. A. Moyer	3575	TiO ₂ mediated photooxidation of trichloroethylene and toluene dissolved in fluorocarbon solvents

Number 7

iii	Contributors to this issue	
R. Bruggemann and K. Voigt	3585	An evaluation of online databases by methods of lattice theory
A.-P. Y. Durand and R. G. Brown	3595	Photoreactions of 4-chlorophenol in aerated and deaerated aqueous solution: use of LC-MS for photoproduct identification
A. P. van Wezel and A. Opperhuizen	3605	Thermodynamics of partitioning of a series of chlorobenzenes to fish storage lipids, in comparison to partitioning to phospholipids
G. Disse, H. Weber, R. Hamann and H.-J. Haupt	3617	Comparison of PCDD and PCDF concentrations after aerobic and anaerobic digestion of sewage sludge
Q. Yan, S. Kapila, L. D. Sivils and A. A. Elseewi	3627	Effects of sensitizers and inhibitors on phototransformation of polychlorinated dibenzo- <i>p</i> -dioxins (PCDDs)
S. Takenaka and Y. Tanaka	3635	Behavior of microcystins and its decomposition product in water treatment process
L. Niemistö and M. Perttilä	3643	Trace elements in the Weddell Sea water and sediments in the continental shelf area
T. P. Mäkelä and A. O. J. Oikari	3651	Pentachlorophenol accumulation in the freshwater mussels <i>Anodonta anatina</i> and <i>Pseudanodonta complanata</i> , and some physiological consequences of laboratory maintenance

A. E. Kinkennon, D. B. Green and B. Hutchinson	3663	The use of simulated or concentrated natural solar radiation for the TiO_2 -mediated photodecomposition of Basagran, Diquat, and Diuron
C. Kiyohara, T. Hirohata and Y. Masuda	3673	Effects of polychlorinated dibenzo- <i>p</i> -dioxin and dibenzofuran congeners in human lymphoblastoid cells on aryl hydrocarbon hydroxylase activity
F. J. González-Vila, T. Verdejo, J. C. Del Rio and F. Martin	3681	Accumulation of hydrophobic compounds in the soil lipids and humic fractions as result of a long term land treatment with olive oil mill effluents (alpechin)
K. Hosoya, K. Kimata, K. Fukunishi, N. Tanaka, D. G. Patterson Jr, L. R. Alexander, E. R. Barnhart and J. Barr	3687	Photodecomposition of 1,2,3,4- and 2,3,7,8-tetrachlorodibenzo- <i>p</i> -dioxin (TCDD) in water-alcohol media on a solid support
M. Pantsar-Kallio and P. K. G. Manninen	3699	Application of capillary electrophoresis in the analysis of phosphate in lake water
F. Läturnus, G. Mehrtenz and C. Gren	3709	Haloperoxidase-like activity in spruce forest soil — a source of volatile halogenated organic compounds?
R. Bruhn, N. Kannan, G. Petrick, D. E. Schulz-Bull and J. C. Duinker	3721	CB pattern in the harbour porpoise: bioaccumulation, metabolism and evidence for cytochrome P450 IIB activity
K. Murakami and K. Horikawa	3733	The induction of micronuclei in mice hepatocytes and reticulocytes by tetrachloroethylene
K. J. James, M. Cherry and M. A. Stack	3741	Assessment of chemical plant emissions on an urban environment: a new approach to air quality measurements
J. W. Lewis, A. N. Kay and N. S. Hanna	3753	Responses of electric fish (family Mormyridae) to inorganic nutrients and tributyltin oxide
S. M. Steinberg and J. R. Walker	3771	Colorimetric analysis of benzene for use in environmental screening
R. D. Tripathi, U. N. Rai, M. Gupta, M. Yunus and P. Chandra	3783	Cadmium transport in submerged macrophyte <i>Ceratophyllum demersum</i> L. in presence of various metabolic inhibitors and calcium channel blockers

Number 8

iii	Contributors to this issue	
M. Sánchez-Camazano, M. Arienzo, M. J. Sánchez-Martin and T. Crisanto	3793	Effect of different surfactants on the mobility of selected non-ionic pesticides in soil
Bea-Ven Chang, Kuo-Shu Chen and Shaw-Ying Yuan	3803	Dechlorination of 2,4,6-TCP by an anaerobic mixed culture
Hung-Yee Shu and Ching-Rong Huang	3813	Degradation of commercial azo dyes in water using ozonation and UV enhanced ozonation process

W. Slob, M. Olling, H. J. G. M. Derkx and A. P. J. M. de Jong	3827	Congener-specific bioavailability of PCDD/Fs and coplanar PCBs in cows: laboratory and field measurements
M. Leivuori and L. Niemistö	3839	Sedimentation of trace metals in the Gulf of Bothnia
P. Mikkelsen, S. Herve, J. Paasivirta and P. Heinonen	3857	Ecotest device for estimation of environmental fate of chemicals in the laboratory
A. Oku, K. Tomari, T. Kamada, E. Yamada, H. Miyata and O. Aozasa	3873	Destruction of PCDDs and PCDFs. A convenient method using alkali-metal hydroxide in 1,3-dimethyl-2-imidazolidinone (DMI)
P. Andrews and W. Vetter	3879	A systematic nomenclature system for toxaphene congeners — I. Chlorinated bornanes
S. Hashimoto and M. Morita	3887	Analysis of PCDDs, PCDFs, planar and other PCBs in seaweed from Japanese coast
P. Ruokojärvi, J. Ruuskanen, M. Ettala, P. Rahkonen and J. Tarhanen	3899	Formation of polycyclic aromatic hydrocarbons and polychlorinated organic compounds in municipal waste landfill fires
M. Kamiya and M. Tanaka	3909	Hydrogen-bonding effects on correlation analysis of <i>n</i> -octanol/water partition coefficients and molecular properties for chlorinated phenols
L. Marsili, C. Gaggi, A. Bortolotto, L. Stanzani, A. Franchi, A. Renzoni and E. Bacci	3919	Recalcitrant organochlorine compounds in captive bottlenose dolphins (<i>Tursiops truncatus</i>): biomagnification or bioaccumulation?
C. Rosenberg, H. Kontsas, J. Tornaeus, P. Mutanen, P. Jäppinen, H. Vainio, D. G. Patterson Jr and L. L. Needham	3933	PCDD/PCDF levels in the blood of workers at a pulp and paper mill
R. Addink, H. A. J. Govers and K. Olie	3945	Desorption behaviour of polychlorinated dibenzo- <i>p</i> -dioxins/dibenzofurans on a packed fly ash bed
Jianbo Liu and Chuanfan Qian	3951	Hydrophobic coefficients of <i>s</i> -triazine and phenylurea herbicides
R. Keymeulen, N. Schamp and H. Van Langenhove	3961	Uptake of gaseous toluene in plant leaves: a two compartment model
B. B. Mogensen and N. H. Spliid	3977	Pesticides in Danish watercourses: occurrence and effects
H. H. Richnow, R. Seifert, M. Kästner, B. Mahro, B. Horsfield, U. Tiedgen, S. Böhm and W. Michaelis	3991	Rapid screening of PAH-residues in bioremediated soils

Number 9

iii Contributors to this issue

D. T. H. M. Sijm, J. Middelkoop and K. Vrusekoop	4001	Algal density dependent bioconcentration factors of hydrophobic chemicals
---	------	---

I. S. Dolezal, K. P. Segebarth, M. Zennegg and S. Wunderli	4013	Comparison between supercritical fluid extraction (SFE) using carbon dioxide/acetone and conventional Soxhlet extraction with toluene for the subsequent determination of PCDD/PCDF in a single electrofilter ash sample
K. Pohlandt, C. Bockelmann and R. Marutzky	4025	Concentrations of pentachlorophenol and lindane in various assortments of wood
W. Schwack, B. Bourgeois and F. Walker	4033	Fungicides and photochemistry photodegradation of the dicarboximide fungicide procymidone
I. Witte, H. Jacobi and U. Juhl-Strauss	4041	Correlation of synergistic cytotoxic effects of environmental chemicals in human fibroblasts with their lipophilicity
Wang Jianlong, Liu Ping and Qian Yi	4051	Microbial degradation of di- <i>n</i> -butyl phthalate
C. G. van Ginkel, C. M. Plugge and C. A. Stroo	4057	Reduction of chlorate with various energy substrates and inocula under anaerobic conditions
S. Hashimoto, T. Yamamoto, A. Yasuhara and M. Morita	4067	PCDD, PCDF, planar and other PCB levels in human milk in Japan
G. Zink and K. E. Lorber	4077	Mass spectral identification of metabolites formed by microbial degradation of polycyclic aromatic hydrocarbons (PAH)
O. Roots	4085	Organochlorine pesticides and polychlorinated biphenyls in the ecosystem of the Baltic Sea
H. Huang and A. Buekens	4099	On the mechanisms of dioxin formation in combustion processes
J. Bogner, K. Spokas, E. Burton, R. Sweeney and V. Corona	4119	Landfills as atmospheric methane sources and sinks
F. K. Kawahara, B. Davila, S. R. Al-Abed, S. J. Vesper, J. C. Ireland and S. Rock	4131	Polynuclear aromatic hydrocarbon (PAH) release from soil during treatment with Fenton's reagent
C. D. Simpson, W. R. Cullen, K. B. Quinlan and K. J. Reimer	4143	Methodology for the determination of priority pollutant polycyclic aromatic hydrocarbons in marine sediments
W. Z. Tang and Huren An	4157	UV/TiO ₂ photocatalytic oxidation of commercial dyes in aqueous solutions
W. Z. Tang and Huren An	4171	Photocatalytic degradation kinetics and mechanism of Acid Blue 40 by TiO ₂ /UV in aqueous solution
N. Dirilgen and N. Ince	4185	Inhibition effect of the anionic surfactant SDS on duckweed, <i>Lemna minor</i> with considerations of growth and accumulation
R. G. Jensen	4197	Letter to the Editor
G. G. Rimkus	4200	Answer to the Letter to the Editor
B. Liebl	4203	Statement on the Letter to the Editor

Number 10

iii Contributors to this issue

L. B. Sonnenberg and K. M. Nichols 4207 Emissions of hydrochloric acid, PCDD and PCDF from the combustion of chlorine-containing kraft pulp mill bleach plant waste

Chih-yu Chen and Shian-chee Wu 4225 The adsorption of benzene, toluene and ethylbenzene on soils near infinite dilution

G. C. Sigua, A. R. Isensee, A. M. Sadeghi and G. J. Im 4237 Distribution and transport of atrazine as influenced by surface cultivation, earthworm population and rainfall pattern

T. Madsen, H. B. Rasmussen and L. Nilsson 4243 Anaerobic biodegradation potentials in digested sludge, a freshwater swamp and a marine sediment

J. Koistinen, H. Mussalo-Rauhamaa and J. Paasivirta 4259 Polychlorinated diphenyl ethers, dibenzo-*p*-dioxins and dibenzofurans in Finnish human tissues compared to environmental samples

M. Huisman, S. E. J. Eerenstein, C. Koopman-Esseboom, M. Brouwer, V. Fidler, F. A. J. Musket, P. J. J. Sauer and E. R. Boersma 4273 Perinatal exposure to polychlorinated biphenyls and dioxins through dietary intake

R. L. de Swart, P. S. Ross, H. H. Timmerman, W. C. Hijman, E. M. de Ruiter, A. K. D. Liem, A. Brouwer, H. van Loveren, P. J. H. Reijnders, J. G. Vos and A. D. M. E. Osterhaus 4289 Short term fasting does not aggravate immunosuppression in harbour seals (*Phoca vitulina*) with high body burdens of organochlorines

G. G. Cash 4307 Correlation of physicochemical properties of alkylphenols with their graph-theoretical ϵ parameter

A. S. Kao and C. Venkataraman 4317 Estimating the contribution of reentrainment to the atmospheric deposition of dioxin

Number 11/12

iii Contributors to this issue

R. Kocwa-Haluch and M. Lemek 4333 Easy and inexpensive diffusion tests for detecting the assimilation of aromatic compounds by yeast-like fungi — II. Assimilation of aromatic acids

T. A. Albanis, D. G. Hela and D. Hatzilakos 4341 Organochlorine residues in eggs of *Pelecanus crispus* and its prey in wetlands of Amvrakikos Gulf, north-western Greece

D. J. Lacotte, G. Mille, M. Acquaviva and J.-C. Bertrand 4351 *In vitro* biodegradation of Arabian Light 250 by a marine mixed culture using fertilizers as nitrogen and phosphorous sources

M. Itävaara and M. Vikman	4359	A simple screening test for studying the biodegradability of insoluble polymers
M.-O. Fouchécourt and J.-L. Rivière	4375	Activities of cytochrome P450-dependent monooxygenases and antioxidant enzymes in different organs of Norway rats (<i>Rattus norvegicus</i>) inhabiting reference and contaminated sites
T. S. Thompson and R. G. Treble	4387	Use of pine needles as an indicator of atmospheric contamination by pentachlorophenol
P. Andrews, K. Headrick, J.-C. Pilon, B. Lau and D. Weber	4393	An interlaboratory round robin study on the analysis of toxaphene in a cod liver oil standard reference material
Y. C. Chan, P. D. Vowles, G. H. McTainsh, R. W. Simpson, D. D. Cohen and G. M. Bailey	4403	Use of a modified Walkley-Black method to determine the organic and elemental carbon content of urban aerosols collected on glass fibre filters
S. K. Bindra and R. S. Narang	4413	Combustion of flame retardants
D. T. H. M. Sijm and T. L. Sinnige	4427	Experimental octanol/water partition coefficients of chlorinated paraffins
A. Yediler and J. Jacobs	4437	Synergistic effects of temperature, oxygen and water flow on the accumulation and tissue distribution of mercury in carp (<i>Cyprinus carpio</i> L.)
H. Kankaanpää, M. Laurén, M. Mattson and M. Lindström	4455	Effects of bleached kraft mill effluents on the swimming activity of <i>Monoporeia affinis</i> (Crustacea, Amphipoda) Lindström
U. Pagga, D. B. Beimborn, J. Boelens and B. De Wilde	4475	Determination of the aerobic biodegradability of polymeric material in a laboratory controlled composting test
A. Sabljic, H. Güsten, H. Verhaar and J. Hermens	4489	QSAR modelling of soil sorption. Improvements and systematics of log K_{OC} vs. log K_{OW} correlations
Z. Mehmood, D. E. Kelly and S. L. Kelly	4515	Metabolism of the herbicide chlortoluron by human cytochrome P450 3A4
Xiaohong Zhao, S. L. Smith and L. K. Duffy	4531	Effects of ethanol as an additive on odor detection thresholds of Alaskan gasolines at sub-Arctic temperatures
G. L. Mills and L. R. Sullivan	4541	Indirect photolysis of tetraphenylborate sensitized by humic acid
Chia-Swee Hong and Huancheng Qiao	4549	Generator column determination of aqueous solubilities for non- <i>ortho</i> and mono- <i>ortho</i> substituted polychlorinated biphenyls

AUTHOR INDEX

Acquaviva, M. 4351
Addink, R. 3549, 3945
Adhya, T. K. 3249
Adijuwana, H. 3153
Ahlers, J. 2637
Al-Abed, S. R. 4131
Albaiges, J. 3397
Albanis, T. A. 4341
Aldag, R. 3051
Alexander, L. R. 3687
Allen, B. C. 2561
Andersen, M. E. 2561
Anderson, R. D. 2919
Andrews, P. 3879, 4393
Aozata, O. 2779, 2959, 3873
Ariozzo, M. 3793
Arnold, J. 2747
Asanuth, T. W. 2853
Autenrieth, R. L. 3025
Axler, R. P. 3345
Bacci, E. 3919
Bae, B.-H. 3025
Bahadur, M. 2755
Bailey, G. M. 4403
Bakboord, J. 2799
Baker, J. 3323
Barber, J. T. 3567
Barceló, D. 3397
Barnhart, E. R. 3687
Barr, J. 3687
Bassik, S. C. 2529
Baugham, T. M. 2661
Bautista, J. M. 2817
Bayer, E. 2637
Bea-Ven Chang 3803
Beimborn, D. B. 4475
Beltrán, F. J. 2873
Benoit-Guyod, J.-L. 2677
Bertrand, J.-C. 4351
Bias, R. 2637
Bindra, S. K. 4413
Blazk, B. W. 2499
Bockelmann, C. 4025
Boeliens, J. 4475
Boelhouwers, E. J. 2983
Boersma, E. R. 4273
Bogner, J. 4119
Bohm, S. 3991
Bolgar, M. 2687
Bombick, D. D. 2661
Bonner, J. S. 3025
Borrell, A. 3523
Bortolotto, A. 3919
Bourgeot, B. 2993, 4033
Bowyer, J. R. 2905
Braman, R. S. 2945
Brannon, J. M. 3465
Brock, T. C. M. 3181
Broecker, B. 2637
Brouwer, A. 4289
Brouwer, M. 4273
Brown, G. M. 3575
Brown, R. G. 3395
Brudnoy, S. 3357
Brüggemann, R. 3585
Brunn, R. 3721
Brunson, E. L. 3129
Buckens, A. 4099
Bührer, T. 3033
Burnison, B. K. 3553
Burrows, E. P. 2767
Burton, E. 4119
Camargo, J. A. 3211
Campbell, C. 3217
Capel, P. D. 3305
Cath, G. G. 4307
Chan, Y. C. 4403
Chandra, P. 3783
Chen, C. S. 3455
Cherry, M. 3741
Chia-Swee Hong 4549
Chiarenzelli, J. 3259
Chih-yu Chen 4207, 4225
Ching-Rong Huang 3813
Chunfan Qian 3951
Cibolas, W. 2485
Clewell, H. J. 2561
Cobb, G. P. 2945
Cohen, D. D. 4403
Collie, S. L. 3025
Cooper, R. 2687
Corona, V. 4119
Crisanto, T. 3793
Crone, T. 2587
Cronin, M. T. D. 2521
Crum, S. J. H. 3181
Cullen, W. R. 4143
Cunningham, J. 2687
Davila, B. 4131
Davis, A. P. 3093
de Gerlache, J. 2983
de Jong, A. P. J. M. 3827
de Kok, H. A. M. 2983
de Roolij, C. G. 2983
de Ruiter, E. M. 4289
de Swart, R. L. 4289
De la Torre, A. I. 2727
De Wilde, B. 4475
Dearden, J. C. 2521
Del Rio, J. C. 2817, 3681
Der-Kau Soong 2863
Derkis, H. J. G. M. 3827
DeRosa, C. 2437
DeRosa, C. T. 2485
Dhara, V. R. 2455
Diaz, L. A. 2827
Dirilgen, N. 4185
Disse, G. 3617
Dobbs, A. J. 2521
Dolezal, I. S. 3033, 4013
Donnelly, K. C. 3025
Dous, G. J. 2901
Duffy, L. K. 4531
Duinker, J. C. 3721
Durand, A.-P. Y. 3595
Dutka, B. J. 3273
Ebel Jr., J. G. 2897
Eerenstein, S. E. J. 4273
Ehrlich, Chr. 2591
Elving, D. C. 2897, 2901
Elzeevi, A. A. 3627
Enstein, K. 2499
Easley, H. E. 3567
Etkina, E. I. 2463
Etkina, I. A. 2463
Enala, M. 3899
Fairless, B. 2687
Fernández, C. 2727
Fidler, V. 4273
Fletcher, J. S. 3009
Fouchécourt, M.-O. 4375

Franchi, A. 3919
 Fukunishi, K. 3687
 Gaggi, C. 3919
 Gearhart, J. M. 2561
 Geheffig, I. 3119
 Gelbke, H.-P. 2637
 Gentry, P. R. 2561
 Gomes, L. 3433, 3439
 Gish, T. J. 2971
 Glover, L. A. 3217
 Goetz, F. A. P. C. 3501
 Gombar, V. K. 2499
 Gonzalez, M. 2873
 Gonzalez-Vila, F. J. 2817, 3681
 Goolishy, D. A. 3305
 Govers, H. A. J. 2799, 2983, 3549, 3945
 Green, D. B. 3663
 Green, H. 2637
 Green, C. P. 2983
 Green, C. 3709
 Grunwald, G. D. 2529
 Gupta, G. 3323
 Gupta, M. 3783
 Gussen, H. 4489
 Gutermann, W. H. 2897
 Gyura, R. 3181
 Hall, H. L. 2455
 Hall Jr. L. W. 2919
 Haman, R. 3617
 Han, S. 3425
 Hancl, J. 3051
 Hanna, N. S. 3733
 Hashimoto, S. 3887, 4087
 Hasselkamp, D. 4341
 Haupt, H.-J. 3617
 Hayes, C. 3465
 Hayes, M. A. 3553
 Headrick, K. 4393
 Heeb, N. V. 3033
 Hegde, R. S. 3009
 Heger, W. 2707
 Hein, D. 3051
 Heisonnen, P. 3857
 Heia, D. G. 4341
 Henkelmann, B. 3445
 Hermeau, J. 4489
 Hernandez, E. 3433, 3439
 Herold, C.-P. 3105
 Herve, S. 3857
 Hijman, W. C. 4289
 Hirotsu, T. 3673
 Hollander, H. 2637
 Holler, J. 2437, 2547
 Holley, C. 2747
 Horikawa, K. 3733
 Horsfield, B. 3991
 Horsmann, M. 2579, 2887
 Hosoya, K. 3687
 Hsieh, Y. H. 3093
 Huancheng Qiao 4549
 Huang, C. P. 3093
 Huang, C.-W. 2779, 2959
 Huang, H. 4099
 Hubbard, J. 2687
 Huisman, M. 4273
 Hummer, K. 3489
 Hung-Yee Shu 3813
 Huren An 4157, 4171
 Hussain, L. 3357
 Hussain, Y. A. 3152
 Hutchinson, B. 3663
 Hüttemann, S. H. 2747
 Im, G. J. 4237
 Ince, N. 4185
 Ireland, J. C. 4131
 Iessene, A. R. 4237
 Itävara, M. 4359
 Jacobi, H. 4041
 Jacobi, S. 2637
 Jacobi, J. 4437
 James, K. J. 3741
 Janoooy, A. 2687
 Jinsch, T. 3119
 Jansson, B. 3085
 Jippinen, P. 3933
 Jamaillo, J. 2873
 Janovs, B. M. 2661
 Jensen, K. 3259
 Jensen, R. G. 4197
 Jianbo Lin 3951
 Johnson, B. L. 2415
 Johnson, A. E. 3043
 Jones, K. C. 3043
 Jones, T. D. 2475
 Juli-Straus, U. 4041
 Jung, S.-J. 2707
 Kadri, M. 2677
 Kalkhoff, W.-D. 2591
 Kallenborn, R. 3384
 Kamada, T. 3873
 Kamiya, M. 3909
 Kampe, M. 2747
 Kanicaapill, H. 4455
 Kannan, N. 3721
 Kanungo, P. K. 3249
 Kao, A. S. 4317
 Kapila, S. 3627
 Kastner, M. 3991
 Kawahara, F. K. 4131
 Kay, A. N. 3753
 Kaye, W. E. 2455
 Keller, E. 3051
 Kelly, D. E. 4515
 Kelly, S. L. 4515
 Kenga, M. 2661
 Kettrup, A. 3119, 3445
 Keymeulen, R. 3961
 Khalil, M. A. K. 3153
 Khwaja, H. A. 3357
 Kilham, K. 3217
 Kimata, K. 3687
 Kimball, H. 2687
 Kindness, A. 3217
 Kinkinen, A. E. 3663
 Kiyotara, C. 3673
 Klem, M. 3051
 Klimisch, H.-J. 2637
 Klopman, G. 2511
 Kocwa-Haluch, R. 4333
 Koutinen, J. 4259
 Kontas, H. 3933
 Koopman-Esseboom, C. 4273
 Kordel, W. 3051
 Koziolka, R. 2687
 Kravetz, L. 2827
 Kuhn, G. 3051
 Kuo-Shu Chen 3803
 Lacom, D. J. 4351
 Lahupert, M. 2629
 Lammi, R. 2839
 Landrum, P. F. 3141
 Larsen, K. 3225
 Larson, S. J. 3305
 Laturnas, F. 3387, 3709
 Lau, B. 4393
 Laurén, M. 4455
 Lavin, L. 2919
 Leivoori, M. 3839

Lemek, M. 4333
 Lewis, J. W. 3753
 Lian-sheng Wang 2739
 Lieb, B. 4203
 Liem, A. K. D. 4289
 Lifshitz, R. 3273
 Limia, J. M. 3105
 Lin, Y. 3323
 Linders, J. B. H. J. 3237
 Lindström, M. 4455
 Link, D. J. 2897, 2901
 Lin Ping 4051
 Lodge, K. B. 3345
 López-Martin, J. M. 3523
 Lorber, K. E. 4077
 Lorenz, W. 2755
 Lu, J.-R. 2779, 2959
 Luckas, G. 3489
 Ludi, H. 2611
 Lutik, R. 3237
 Madsen, T. 4243
 Mahro, B. 3991
 Mikell, T. P. 3651
 Mikell, R. 2629
 Mangelsdorf, I. 2611, 2637
 Manninen, P. K. G. 3699
 Mancell, K. L. 2897
 Marsili, L. 3919
 Martin, F. 2817, 3681
 Martin, S. 2707
 Maruzky, R. 4025
 Maze, Y. 2779, 2959
 Masuda, Y. 3673
 Matie, D. R. 2661
 Matrei, P. 3033
 Mamson, M. 4455
 Mayr, W. 2637
 McFarland, V. A. 3465
 McLachlan, M. S. 2579, 2887
 McTainsh, G. H. 4403
 Mehmood, Z. 4515
 Mehrmeni, G. 3709
 Mei-Kuei Lee 2863
 Merk, M. 3445
 Metcalfe, C. D. 3553
 Michaelis, W. 3991
 Middelkoop, J. 4001
 Mikkelson, P. 3857
 Mille, G. 4351
 Miller, B. 2687
 Miller, D. P. 2687
 Mills, G. L. 4541
 Mitchell, W. R. 2767
 Miyata, H. 2779, 2939, 3873
 Mogensen, B. B. 3977
 Moreno, J. 2605
 Morita, M. 3887, 4067
 Moyer, B. A. 3575
 Müller-Wegener, U. 3051
 Muisow, S. G. 3141
 Mumtaz, M. M. 2485
 Muñoz, M. J. 2727
 Murakami, K. 3733
 Muriyarto, D. 3153
 Musket, F. A. J. 4273
 Mussalo-Rauhamaa, H. 4259
 Mutanen, P. 3933
 Myrdal, P. B. 3001
 Nakagawa, R. 2669
 Nakao, T. 2959
 Namboodiri, K. 2429
 Narang, R. S. 4413
 Naylor, C. 3291
 Needham, L. L. 3933
 Neison, M. K. 3129
 Nichols, K. M. 4207
 Nicholson, F. A. 3043
 Niemiöntö, L. 3643, 3839
 Nilsson, L. 4243
 Nordman, D. R. 3345
 Oehme, M. 3384
 Oenga, G. 3259
 Ohta, S. 2779, 2959
 Oikari, A. O. J. 3651
 Oku, A. 3873
 Olie, K. 2983, 3549, 3945
 Olling, M. 3827
 Oppenhuizen, A. 3201, 3605
 Osterhaus, A. D. M. E. 4289
 Owen, C. J. 3345
 Paasivirta, J. 2839, 3857, 4259
 Pagza, U. 4475
 Pagano, J. 3259
 Palm, H. 2839
 Palmer, G. 3217
 Pantzar-Kallio, M. 3699
 Parsons, J. R. 2799
 Pastor, D. 3397
 Paton, G. I. 3217
 Patterson Jr., D. G. 3687, 3933
 Pavlostathis, S. G. 3537
 Pennington, J. C. 3465
 Penttilä, M. 3643
 Peter, H. 2707
 Petrick, G. 3721
 Phillips, T. 3017
 Pilon, J.-C. 4393
 Plein, J. D. 2905
 Flugge, C. M. 4057
 Pohl, H. 2437, 2547
 Pohlandt, K. 4025
 Politis, M. A. 3567
 Popp, P. 2591
 Price-Green, P. A. 2455
 Quian Yi 4051
 Quinlan, K. B. 4143
 Quinn, B. A. 3553
 Rafferty, D. 3259
 Rahkonen, P. 3899
 Rai, U. N. 3783
 Ramo, T. 3413
 Rao, S. S. 3553
 Rao, V. R. 3249
 Rasmussen, R. A. 3153
 Rasmussen, H. B. 4243
 Reijnders, P. J. H. 4289
 Reimer, K. J. 4143
 Reinhard, M. 3475
 Renzoni, A. 3919
 Richnow, H. H. 3991
 Rimkus, G. G. 4200
 Rivas, F. J. 2873
 Rivière, J.-L. 4375
 Roberts, R. 3259
 Rock, S. 4131
 Rodrigues, C. 3291
 Roots, O. 4085
 Rosenberg, C. 3933
 Rosenkranz, H. S. 2511
 Ross, P. S. 4289
 Ruiz, X. 3397
 Ruiz-Olmo, J. 3523
 Ruokojärvi, P. 3899
 Ruuskanen, J. 3899
 Sabiham, S. 3153
 Sabljic, A. 4489
 Sadeghi, A. 2971

Sadeghi, A. M. 4237
 Safe, S. 3017
 Sakai, S. 2809
 Salamero, J. P. 2827
 Sánchez, M. 3433, 3439
 Sánchez-Canazano, M. 3793
 Sánchez-Martín, M. J. 3793
 Sandstrom, M. W. 3305
 Sauer, P. J. J. 4273
 Schamp, N. 3961
 Scheunert, L. 3051
 Schmidt, J. 3119
 Schmidt, M. 3051
 Schnelle, J. 3119
 Schöde, N. 2637
 Schöpe, K. 2611
 Schramm, K.-W. 3445
 Schreier, C. G. 3475
 Schubauer-Bergan, J. P. 3345
 Schubauer-Bergan, M. 3345
 Schulz-Bill, D. E. 3721
 Schwack, W. 2993, 4033
 Scrudato, R. 3259
 Segebarth, K. P. 4013
 Seifert, R. 3991
 Seigle-Murandi, F. 2677
 Seinen, W. 3201
 Sellstrom, U. 3085
 Serve, M. P. 2661
 Sharma, H. A. 3567
 Shaw-Ying Yuan 3803
 Shearer, M. J. 3153
 Sheng, V.-Z. 2779, 2959
 Shian-chee Wu 4225
 Sigma, G. C. 4237
 Sijm, D. T. H. M. 3201, 4001, 4427
 Simpson, C. D. 4143
 Simpson, R. W. 4403
 Sinkkonen, S. 2629
 Simege, T. L. 4427
 Sivila, L. D. 3627
 Slob, W. 3827
 Smith, S. L. 4531
 Sonnenberg, L. B. 4307
 Spitteler, M. 3051
 Spittler, T. D. 2919
 Spliid, N. H. 3977
 Spokas, K. 4119
 Stack, M. A. 3741
 Stahnecker, P. 2637
 Sanzani, L. 3919
 Steber, J. 3105
 Steiman, R. 2677
 Steinberg, S. M. 3771
 Stroo, C. A. 4057
 Stropp, G. 2637
 Sullivan, L. R. 4541
 Sun, Y. 3575
 Sunar, A. 3153
 Sweeney, R. 4119
 Takatsuki, H. 2809
 Takenaka, S. 3635
 Tanaka, M. 3909
 Tanaka, N. 3687
 Tanaka, Y. 3635
 Tang, W. Z. 4157, 4171
 Tarazona, J. V. 2727
 Tarhanen, J. 3899
 Teicgräber, K. 3273
 Tertyze, K. 3051
 Thomas, D. A. 3567
 Thompson, T. S. 4387
 Thub, U. 2391
 Tiedgen, U. 3991
 Tierney, D. P. 2919
 Timmerman, H. H. 4289
 Tod, A. 2677
 Tomari, K. 3873
 Tomaeus, J. 3933
 Treble, R. G. 4387
 Tripathi, R. D. 3783
 Tsai, H.-T. 2779, 2959
 Vainio, H. 3933
 van den Brink, P. J. 3181
 van Donk, E. 3181
 van Ginkel, C. G. 4057
 van Haeften, A. G. 2799
 van Loveren, H. 4239
 van Wenzel, A. P. 3201, 3605
 Van Langenhove, H. 3961
 Vargas-Garcia, C. 2605
 Vartiainen, T. 2853
 Venkatasraman, C. 4317
 Verdejo, T. 3681
 Verhaar, H. 4489
 Verper, S. J. 4131
 Venetritenis, R. 2629
 Veuer, W. 3489, 3879
 Vilman, M. 4359
 Vogel, R. 2637
 Voigt, K. 3585
 von der Trenck, K. Th. 3051
 Vos, J. G. 4289
 Vowles, P. D. 4403
 Vrieskoop, K. 4001
 Wagenaar, W. J. 2983
 Walker, F. 2993, 4033
 Walker, J. R. 3771
 Walther, A. E. 3001
 Wang, L. 3425
 Wang Jianlong 4051
 Ward, J. V. 3211
 Washburn, K. 3017
 Watanabe, N. 2809
 Weber, C. 2637
 Weber, D. 4393
 Weber, H. 3617
 Wichmann, H. 2755
 Wienhold, B. J. 2971
 Wilhelm, C. 2747
 Wilkins, K. 3225
 Wilson, K. R. 2897
 Windrich, J. 2747
 Wine, I. 4041
 Wolf, K. 3119
 Wolfensberger, M. 3033
 Woodgate, S. D. 2511
 Wu, W. Z. 3445
 Wunderli, S. 4013
 Wunderlich, M. 3259
 Xiaohong Zhao 4531
 Xu, Y. 3445
 Yalkowsky, S. H. 3001
 Yamada, E. 3873
 Yamamoto, M. 2791
 Yamamoto, T. 4067
 Yam, Q. 3627
 Yasuhara, A. 4067
 Yediler, A. 4457
 Yi-bing He 2739
 Yong-Chien Ling 2863
 Yunus, M. 3783
 Zacharewski, T. 3017
 Zaugg, S. D. 3305
 Zeneggi, M. 4013
 Zhang, A. 3425
 Zhang, H. 3425
 Zhang, X. 3501

Zhang, Y. Y. 3445
Zhang, Z. 2511
Zheng Zhang 2739
Zheng-tao Liu 2739
Zhuang, P. 3537

Ziegert, M. C. 2919
Ziegler-Skylakakis, K. 2637
Zink, G. 4077
Zitko, V. 3383
Zoltek Jr., J. 3455

ANNOUNCING

ECOLOGICAL SUMMIT 96

19-23 August 1996 - Copenhagen

- risk assessment ● valuation of nature's services
- ecosystem creation and restoration ● application of models to ecosystem management

Supporting Organizations

International Society of Ecological Modelling - International Ecological Engineering Society
International Society of Ecosystem Health - International Society of Ecological Economics
Elsevier Science B.V. - SAS-Institute Denmark - International Lake Environmental Committee

**To receive your free information pack, please complete the form below
and FAX back to Gill Spear on +44 (0) 1865 843958**

Ecological Summit 96
Conference Secretariat
Elsevier Science Ltd.
The Boulevard, Langford Lane
Kidlington, Oxford OX5 1GB, UK

Tel: +44 (0) 1865 843643
Fax: +44 (0) 1865 843958
e-mail: g.spear@elsevier.co.uk
Web-server INFO accessible at
<http://info.dfh.dk/ECOSUM96>

Please send me further details of Ecological Summit 96

ECOSUM 96

Family Name: _____

Address: _____

First Name: _____

Post/Zip Code: _____

Company/Institution

Country:

Nature of Business:

ELSEVIER SCIENCE



The River Nile

Geology, Hydrology and Utilization

Rushdi Said

Consulting Geologist, Formerly
Head of The Geological Survey of
Egypt, 3801 Mill Creek Drive,
Annandale, VA 22003-2330, USA

This multidisciplinary book by the author of *The Geology of Egypt* is the result of many years of research. It attempts to reconstruct the history of the River Nile from its origins to its present shape and regimen and also to ascertain the amount of water which has been carried by the river during the course of its history. It examines the manner in which this water was utilized in the past and the ways in which it will have to be used in future if the inhabitants of the river basin are to cope with their anticipated needs.

Part One traces the geological history of the Nile from the time it started to excavate its valley some six million years ago until the present shape was assumed during the wet period which affected Africa after the retreat of the ice of the last glacial age some 10,000 years ago. Part Two deals with the amount of water that the river and its tributaries carry at present and have carried in the past. Part Three discusses the utilization of the water of the Nile from the time of the first appearance of man in the valley until the present time. It traces man's attempt to harness the river from the earliest time to the building of the Aswan High Dam. The book evaluates the effects of the dam after twenty years of operation. Part Four covers the present water supply-demand balance in each basin state and discusses the future plans of these countries to use the waters of the Nile. The rapidly growing populations and the prolonged droughts of recent years have put pressure upon the available waters of the river.

For geologists, hydrologists, archaeologists, irrigation and water management engineers and Middle East specialists.

Contents

Chapter headings and section headings: Preface.

Part I: Origin and Evolution of the River Nile. Introduction. The lake plateau. The Sudd and the Central Sudan Basin. Rivers of the Ethiopian highlands. The Nubian Nile: transit from the interior of Africa to the Mediterranean Sea. The Egyptian Nile. The modern landscape of the floodplain of the Nile Valley, Delta and Fayum. Climate and evolution of the river.

Part II: The Hydrology of the River Nile. Introduction. Rhythm and ritual of the Nile. In search of the sources of the Nile. The amount of water carried by the Nile. The Nile at Aswan. Past fluctuations of the Nile. The Nile in ancient and medieval Egypt.

Part III: The Utilization of the Waters of the Nile. The early settlers meet a hostile river. The river becomes beneficial: agriculture comes to the Nile Valley. Basin irrigation. Perennial irrigation. The High Dam, benefits and side effects.

Part IV: The Future Uses of the Waters of the Nile. Agreements pertaining to the waters of the Nile. Present and future land and water use in the Nile basin states. Concluding remarks.

Appendix: references.
Index.

332 pages, 116 illus.
397 lit. refs.
October 1993
0-08-041886-4
Hardbound
£75.00/US\$120.00



Elsevier Science offices

North America: Elsevier Science, 660 White Plains Road, Tarrytown, NY 10591-5153, USA
Telephone: +1-914-524-9200 Fax: +1-914-333-2444

UK & all other countries:
Elsevier Science, PO Box 800, Kidlington, Oxford OX5 1DX, UK
Telephone: +44 0865 743685 Fax: +44 0865 743946

Prices and proposed publication dates are subject to change without prior notice.

Sterling prices quoted applies worldwide, except in The Americas. US dollar prices quoted applies in The Americas only.

Pergamon is an imprint of Elsevier Science. Send your orders and enquiries to your nearest Elsevier Science office

SEND FOR A FREE SAMPLE COPY OF...

COMPUTERS & CHEMISTRY

An International Journal

Editor: **James Crabbe**, *University of Reading, Wolfson Laboratory, AMS Building, Whiteknights, PO Box 228, Reading RG6 2AJ, UK*

Consulting Editor: **David Edelson**, *1107 Kenilworth Road, Tallahassee, FL 32312-3854, USA*

AIMS AND SCOPE

Computers & Chemistry publishes papers in English on all fields relating computers and computational methods to the chemical and biochemical sciences, provided that they make a sufficiently novel contribution to knowledge. Theoretical contributions will be considered equally with papers dealing with experimental work and applications. The journal is a multidisciplinary publication, covering the application of information sciences to topics as diverse as molecular design, molecular recognition, molecular dynamics, pharmacology and pharmaceutical chemistry, molecular biology, solid state modelling, materials sciences, chemical physics, industrial chemistry and chemical engineering.

While the journal is predominantly devoted to research, papers on the development and application of information sciences to teaching and learning in the chemical and biochemical sciences will also be considered, provided they make a significant contribution to knowledge.

New Editor

Audience: Researchers in all areas of Chemistry and Biochemistry interested in the Computer Applications in the Subject.

ABSTRACTED/INDEXED IN:

BIOSIS Data, Cambridge Science Abstracts, Chemical Abstracts Service, Chemistry Earth Sciences, Computer Contents, Current Contents ASCA, Current Contents CompuMath, Current Contents Physics, Current Contents SCISEARCH Data, Current Contents Scientific Citation Index, Engineering Index, INSPEC Data, Information Science Abstracts, PASCAL-CNRS Data, SSSA/CISA/ECA/ISMEC, Software Reviews on File, TCEA.

1996: Volume 20 (4 issues)

Subscription price:

£442.00 (US\$703.00)

ISSN 0097-8485 (00379)



PERGAMON

An imprint of Elsevier Science

Please send me a FREE SAMPLE COPY of:
COMPUTERS & CHEMISTRY (00379)

Name _____ Position _____

Organization _____ Department _____

Address _____

Post/Zip Code _____

E-Mail/Internet No. _____

Return to: Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK

Telephone: +44 (0) 1865 843479/843781 Fax: +44 (0) 1865 843952

or Elsevier Science Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, USA

Telephone: +1-914-524-9200 Fax: +1-914-333-2444

E-mail: freesamples@elsevier.co.uk (quoting journal title and your full name and postal address).

For even faster service use e-mail, fax or telephone number

SEND FOR A FREE SAMPLE COPY OF ...

CHROMATOGRAPHIA

An International Journal for Rapid Communication in Chromatography and Associated Techniques

Scientific Editors: T.A. Berger, Hewlett-Packard Co., 2850 Centerville Road, Wilmington, DE 19808, USA and

H. Engelhardt, Angewandte Physikalische Chemie, Universität, D-66041 Saarbrücken, Germany

Technical Editors: E.R. Adlard, Delryn, Vicarage Lane, Burton, South Wirral L64 5TJ, UK and

R. Stock, 23 Highbury Road, Keyworth, Nottinghamshire NG12 5JB, UK

Special Editor: L.S. Ettr, PO Box 2175, Belden Avenue Station, Norwalk, CT 06852, USA

Audience: Analytical Chemists.

AIMS AND SCOPE

Present-day technology makes necessary the rapid exchange of information among professionals in the field of chromatography. Because of the difficulty in solving certain analytical problems quickly and economically using only one of the chromatographic methods, the combined use of varied techniques, such as gas chromatography and mass spectroscopy, yields more exact results.

Chromatographia is a monthly, international journal that meets the vital demand for the quick spread of accurate, concise information concerning chromatography and related fields. Modern analytical problems place such great demands on the accuracy, sensitivity, speed and economy of the instruments that they can only be solved by close cooperation between theorists, users and instrument manufacturers, and to this end *Chromatographia* permits the rapid exchange of information.

A Selection of Papers

J. MOLKENTIN, D. PRECHT (Germany), Comparison of packed and capillary columns for quantitative gas chromatography of triglycerides in milk fat.

Å. EMMER, J. ROERAADE (Sweden), Micro enzymatic assay coupled to capillary electrophoresis via liquid junction.

A. BERLONI, A. CAPIELLO, G. FAMIGLINI, P. PALMA (Italy), Generation of split-flow micro-gradients for capillary HPLC.

K. JINNO, H. NAKAMURA (Japan), Retention characteristics of fluorinated bonded silica phase in reversed-phase liquid chromatography.

M. HANSON, J. KABBARA, K. JUNGHANS (Germany), Packed column supercritical fluid chromatography with FID: investigation of products from copper-catalyzed conjugate additions of trimethylaluminium to α, β -unsaturated aldehydes.

K.D. ALTRIA, S.D. FILBEY (UK), The application of experimental design to the robustness testing of a method for the determination of drug-related impurities by capillary electrophoresis.

R.B. GEERDINK, P.G.M. KIENHUIS, U.A. TB. BRINKMAN (The Netherlands), Optimization of instrumental parameters for flow injection analysis-thermospray tandem mass spectrometry.

C. SAENZ BARRIO, J. SANZ ASENSIO, J. GALBAN BERNAL (Spain), GC-NPD investigation of the recovery of organonitrogen and organophosphorus pesticides from apple samples: the effect of the extraction solvent.

H.C. BIRRELL, M.D. BRIGHTWELL, P. CAMILLERI (UK), A capillary electrophoresis assay for the fibrinolytic agent, eminase.

C.G. BORDIER, N. SELLIER, A.P. FOUCault, F. LE GOFFIC (France), Characterization and purification of fatty acid methyl esters from the liver oil of the deep sea shark *centrophorus squamosus* by gas chromatography-mass spectrometry and countercurrent chromatography.

ABSTRACTED/INDEXED IN: Analytical Abstracts, Chemical & Earth Sciences, Current Contents/Physical.

1995: Volumes 40-41 (24 issues)

Subscription price: £504.00 (US\$825.00)

ISSN 0009-5893 (00285)



Pergamon

Pergamon is an imprint of Elsevier Science.

If an Associated Personal Subscription rate is available full details accompany every sample copy requested. Sterling price quoted applies worldwide except in The Americas. US dollar price quoted applies in The Americas only. Prices include postage and insurance. Customers resident in the EU will be charged VAT (or the equivalent) at their own country's rate, unless a VAT (or equivalent) registration number is supplied. Elsevier Science VAT registration number in the UK: GB 490 6384 25 000.

Please send me a FREE SAMPLE COPY of CHROMATOGRAPHIA (00285)

Name _____ Position _____

Organisation _____ Department _____

Address _____

Post/Zip Code _____

Return to: Elsevier Science Ltd, The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK
or Elsevier Science Inc., 660 White Plains Road, Tarrytown, NY 10591-5153, USA

IBA5

Receive Regular News of Elsevier's Publications

Elsevier Science mails information on new and existing publications regularly.

If you would like to be added to the mailing list please send us your name and full mailing address, indicating your fields of interest:

ENGINEERING

Energy Sources & Technology, Civil & Structural Engineering,
Mechanical Engineering, Electrical & Electronic Engineering,
Systems & Control Engineering, Aeronautical & Aerospace Technology,
Materials Technology, Chemical Engineering

LIFE SCIENCES & MEDICINE

Biological Sciences (including biochemistry & molecular biology), Agriculture,
Veterinary Medicine, Immunology, Cancer Research, Pharmacology, Neuroscience,
Vision Science, Clinical Medicine

PHYSICAL SCIENCES

Computer Science, Physics, Chemistry, Mathematics, Earth Science,
Environmental Science, Materials Science, Space & Planetary Sciences

SOCIAL SCIENCE & HUMANITIES

Sociology, Women's Studies, Psychology, Education,
Political Science, Geography, Economics, Management & Business, Linguistics,
Information Science, Librarianship



Elsevier Science Ltd

The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK

Elsevier Science Inc.

660 White Plains Road, Tarrytown, NY 10591-5153, USA

CO555/P4

